

AMENDMENT TO THE DRAWINGS

Fig. 3 has been amended. The attached sheet of formal drawing replaces the original sheet including Fig. 3.

REMARKS/ARGUMENTS

Applicants respond herein to the Office Action dated May 23, 2006.

Applicants' attorneys appreciate the Examiner's thorough search and examination of the present patent application and the indication of allowability of claims 10, 27, 32, 37 and 39, if amended.

Claims 10, 20-29, 31, 32 and 34-39 are pending in this application. Claims 10, 20-29, 31, 32, and 34-39 have been rejected.

In response to the drawings objection, Figure 3 has been amended to include a direct motor speed and torque sensor. Support for this is found on page 6, lines 2-8 of the application. Thus, no new matter has been added. Because Figure 3 now reflects sensing speed and torque of the motor, claims 10, 27, 32, 37 and 39 are now allowable.

Claims 20-26, 28, 29, 31, 34-36 and 38 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,063,490 to Maehara et al. ("Maehara").

Reconsideration and withdrawal of these rejections are respectfully requested.

Amended independent claim 20 is directed to a controller for an electrical power delivery system. The power delivery system of claim 20 includes "a DC link having a rectification circuit for converting incoming AC power to DC power, a switched inverter for generating controlled AC power from the DC power, and an energy storage unit in the DC link coupling the rectification circuit and the inverter." Claim 20 recites that the controller includes "an input power conditioning unit adapted for connection to an output of the rectification circuit" and "a power control unit coupled to the power conditioning unit for controlling the power drawn by the power conditioning unit". Claim 20 further recites that "the power control unit is operable in response to the signals from the first and second sensor units to control the power conditioning unit to minimize the difference between the DC power drawn by the input power conditioning unit and the AC power delivered to the load, whereby the capacity of the energy storage unit is minimized." The first sensor unit senses a voltage and current at the output of the rectification circuit. The second sensor unit senses the DC link voltage and current.

In the present invention, there is provided an input power conditioning unit, i.e., the Power Factor Correction (PFC) power supply described in paragraph 16, on page 5 of the present application. Maehara does not teach, disclose, or suggest a controller to "control the power

conditioning unit to minimize the difference between the DC power drawn by the input power conditioning unit and the AC power delivered to the load” as recited in claim 20, wherein the input power drawn is sensed “by sensing a voltage and current at the output of the rectification circuit” and the AC power delivered to the load is sensed “by sensing the DC link voltage and current”.

As shown in Figure 14, both of the input power sensors of Maehara measure AC power. This is described in col. 12, lines 25-31 of Maehara as follows:

An input power sensor 11 is provided between the chopper and the voltage source Vs to monitor an input power W_{IN} supplied to the chopper 1. Likewise, an output power sensor 12 is provided between the inverter 2 and the load L to monitor an output power W_{OUT} being supplied from the inverter 2.

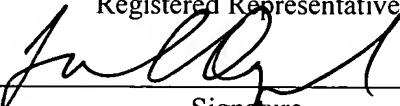
Contrarily, in accordance with the invention of the rejected claims, the first and second sensor units measure DC current and voltage. Figure 3 of the present application illustrates the input current I_{IN} and voltage V_{IN} being measured at the output of the full wave rectifier 36 and the current I_{DC} and voltage V_{DC} are taken from the DC Bus.

Amended independent claims 36 and 38 include recitations of a power conversion unit, which is claimed in claim 20 as the power conditioning unit. As discussed above, the power conversion unit claimed is not suggested in Maehara. Maehara does not teach, disclose, or suggest “controlling a power conversion unit coupled to the input power source to minimize the difference between the input power drawn from the source and the output power delivered to the load, based on the indications of the input and output power” wherein the indication of input power is determined by sensing a voltage and current at the output of the rectification circuit and the indication of output power to the load is determined by sensing the DC link voltage and circuit, as recited in claim 36. Similarly, claim 38 is not taught or suggested and should also be allowable, as amended.

Therefore, Applicants' claims 10, 27, 32, 37 and 39 are now allowable and independent claims 20, 36, and 38 are patentably distinct from Maehara. Claims 21-26, 28, 29, 31, 34, and 35 depend directly or indirectly from above discussed independent claims and are, therefore, allowable for the same reasons, as well as because of the combination of features in those claims with the features set forth in the respective independent claims.

In view of the above, it is submitted that all claims in this application are now in condition for allowance, prompt notification of which is requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on July 5, 2006:

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Signature
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Respectfully submitted,



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